

REMARKS

The Action once again asks for prior art without taking the trouble to acknowledge the art filed March 12 (10), 2004, as indicated on the attached postcard receipt. Acknowledgment is requested.

Moreover, the request for art is ambiguous, at best. For example, claim 6 is rejected "... in view of admitted prior art in the application (see page 2). The Examiner request[s] the applicant to submit prior art that comprises a sheet-type regenerative heat exchanger wherein the granules are made of one or more of ..." various materials, but no sheet-type regenerative heat exchanger is described on page 2 of the application. The applicant is willing to cooperate with the Examiner's requests if the Examiner can make them clear.

The rejection of claim 15 under 35 USC 112 because "... claim 15 refers back to claim 1 and there is no mention of a regenerative cryogenic refrigerator in claim 1" also lacks clarity. There is no requirement that everything in a dependent claim be in a parent claim. In fact, the reality is the reverse. A dependent claim must add a limitation to a parent claim.

Claim 23 is canceled.

The second rejection of claim 15 under 35 USC 112 for lack of antecedent for "a refrigerator" is incomprehensible, because the indefinite article "a" specifically quoted in the Action excludes antecedental reference.

Claims 6 and 21 are amended deleting "such as."

Other non-narrowing amendments are made in the claims only for clarity not invoking any present Festo decision.

The rejection of independent claims 1 and 21 under 35 USC 103 for obviousness from the cited Spokoyny, et al. and Sellin patents is, at best, impermissible hindsight reconstruction by picking features claimed from the patents while ignoring their contrary teachings.

The Spokoyny, et al. patent is said to disclose the claimed invention "with the exception of providing numerous granules that are bonded not in contact with each other along a length and over a predetermined width of one or both surfaces of a holding device," but this is what the invention "consists of," at least when the holding device is a thin, sheet-like holding base. Therefore, the Action admits that the patent does not disclose what the claimed invention consists of.

Moreover, in order to cite the Spokoyny, et al. patent, the Action ignores that it is for hot flue gas (see column 5, line 42, for example), while the claims are for "a temperature range of from 2K to 160K. The contrary teaching of the patent should not be ignored.

In an attempt to justify citation of the Spokoyny, et al. patent, the Action suggests that "... the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations."

In the first place, the Action has admitted as pointed out above that the Spokoyny, et al. patent does not satisfy the claimed structural limitations. In the second place, the case relied on for this, In re Masham, applies to materials to be worked on and not conditions (temperatures) thereof. In the third place, the part of the use limitation in the case was in the preamble and not incorporated into the claim by improvement or Jepson formulation, as here. And finally, in the fourth place, the incorporated temperature limitation is pointed to in showing that the patent teaches away from the claimed invention, and not toward it, it not

being factually determined as in the Masham case that the structure of the patent is capable of use at the temperatures claimed.

However, since the Action admits that the Spokoyny, et al. patent does not disclose the structure claimed, attention may be turned to the supposed finding of this structure by combination with the cited Sellin patent.

In the embodiment of Fig. 5 and, on line II - II, Fig. 6 (not 2), column 5, lines 3-7, discloses, "The filling bodies 4b ... are merely made spherical ... and rest on ... support elements 3b ..." The filling bodies are not bonded to support elements, as claimed. Moreover, the plural support elements must be emphasized. Each filling body is on more than one and not only one as claimed. Nothing in this straddling two-part support of the patent discloses or suggests the single sheet-like holding base claimed. (This distinction also confirms that combination of references does not meet the structural disclosure requirement of the Masham decision to exclude the claimed temperature limitation, an additional point that will not be repeated with each distinction pointed out.)

The difference of having a loose, resting on filling body and a bonded one is made clear in the specification. Loose bodies bump together and deterioratingly fragment in the fluid flow to which the claimed regenerators are subjected when the bodies are granule size, as claimed. The loose bodies of the patent are, therefore, different from the claims in form and function.

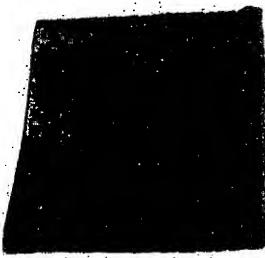
In the embodiment of Figs. 1 and 2 of the Sellin patent, the filling bodies 4 are supported from sheet 2 by pins 3. The pins are not the claimed bonding and do not teach toward it in combination with the claimed thin holding base, because the thin base would not support torque of the cantelevered pins. This is suggested by contact of the filling bodies

shown in Fig. 1 of the patent, which is, in any event, yet another distinction from the "not in contact with each other" claimed.

The need to pick features from the art according to the teaching only of the claims is thus apparent. It does not support rejection.

However, there is yet another difficulty. Sectional views 2 and 6 of the Sellin patent certainly imply a granular material and column 6, lines 28-29, of the Spokoyny, et al. patent specify the phase change material 54 is in a container. The claimed invention has granules, etc. on a thin sheet, i.e. less than 100 microns thick in claim 8, not granular material nor grains in a container.

Granules bonded on a thin sheet as claimed must look something like sandpaper; the disclosures of the patents do not. In support thereof, a specimen of 240 μm Pb·5Sb granules on 25 μm polyimide at 250 μm spacing is attached here.



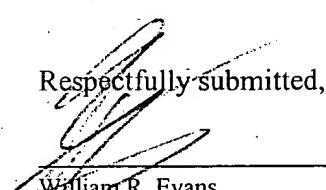
The granule spacing is shown in the attached photographic enlargement. Neither the specimen nor its photographic enlargement look like the cited art. While this may not be a rigorously scientific differentiation of the claimed invention from the art, it may yet support the finding of the impermissible hindsight reconstruction of the rejection.

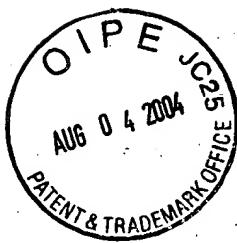
Claim 22 relates adhesive thickness to granule size.

New claim 24 reads on and depends from the elected invention of claim 1.

Reconsideration and allowance are, therefore, requested.

Respectfully submitted,


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March 10, 2004

In re: Yoshihiro ISHIZAKI

Serial No.: 09/880,604 Group 3743

Filed: June 13, 2001 Examiner: N. Patel

For: STEEL-TYPE REGENERATIVE HEAT EXCHANGER AND
MANUFACTURING METHOD THEREOF, AND REGENERATOR AND
REFRIGERATOR USING THE SAME

TRANSMITTAL OF SUBSTITUTE STATEMENT OF ACCURACY

Filed _____

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